REMARKS

Status of the Application

Claims 1-3 are all the claims that have been examined in the pending application. Claims 1 and 2 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese reference (6-246802) in view of Uehara et al. (U.S. 6,228,308). Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese reference (6-246802) in view of Uehara and further in view of Taniguchi (U.S. 5,002,717).

Preliminary Matters

Applicants thank the Examiner for withdrawing the objection to the drawings and the specification and accepting the drawings as filed July 5, 2006. Applicants further thank the Examiner for withdrawing the rejection of claim 2 under 35 U.S.C. § 112, first paragraph.

Claim Rejections -- 35 U.S.C. § 103

A. Claims 1 and 2 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese reference (6-246802) in view of Uehara et al. (U.S. 6,228,308).

Claim 1 recites, in part, "a width of the check ring is set to 0.3 through 0.4 times the diameter (D) of the screw."

The Examiner alleges that "It would have been further obvious to an artisan of ordinary skill in the art to modify the angle of θ ... to be set to 70° through 90° or to modify the width of the check ring to be set to .3 or .4 times the diameter (D) of the screw because such a modification would have been found due to routine experimentation/engineering." See page 5 of the Office Action.

Further, on pages 6-8, the Examiner responds to Applicants' arguments of July 5, 2006. Therein, the Examiner agrees with Applicants that JP '802 fails to disclose a specified width for the check ring. The Examiner further notes that the check ring functions in the same manner in the reference as in the present invention, i.e. to prevent backflow. Therefore, the Examiner asserts that the check ring is inherently dimensioned to be able to seal and to not interfere with the screw, or else the check ring would not be operable. See page 7 of the Office Action. The Examiner also agrees that the width of the check ring is not simply a design choice, but alleges that it would be well within the level of ordinary skill to find operable or optimum dimensions for the apparatus of JP '802 by routine experimentation/engineering.

Applicants respectfully submit that the Examiner's reasoning for discounting the importance of the width of the check ring is unfounded. In citing Gardner v. TEC Systems, Inc., 220 USPQ 777 (Fed. Cir. 1984), the Examiner asserts that "the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device." Further, the Examiner alleges that it is not inventive to discover optimum or workable ranges by routine experimentation, citing In re Aller, 105 USPQ 233.

Applicants submit that the Examiner has misapplied Gardner with regard to the present application. With regard to the claim 1 of the present invention, the width of the check ring (.3-.4 of the diameter of the screw) has a specific purpose. First, anything smaller than .3D will result in an amount of resin flow back because proper pressure cannot be maintained as a seal,

whereas anything larger than .4D will result in increased breakage of long glass fibers. Thus, the recitation of specific dimensions in the present application is a result of a specified reasoning, which is distinguishable on the facts from Gardner. Further, as noted in MPEP 2144.05(II)(B), only result-effective variables can be optimized. "[T]he determination of the optimum or workable ranges of said variable might be characterized as routine experimentation" only if the variable in question achieves a recognized result. See MPEP 2144.05(II)(B), citing In re Antonie, 559 F.2d, 618, 195 USPQ 6 (CCPA 1977). Because neither JP '802 nor Uehara discloses that the width of a check ring is a result-effective variable, the Examiner's position that optimization of the width of the check ring amounts to routine experimentation is subject to attack. Thus, because neither JP '802 nor Uehara discloses the recited width of the check ring, and because the recited width of the check ring would not be obvious as a result of routine experimentation/engineering, claim 1 is patentable over the applied art.

Claim 2 is patentable over the applied art at least by virtue of its dependency from claim 1.

B. Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Japanese reference (6-246802) in view of Uehara and further in view of Taniguchi (U.S. 5,002,717).

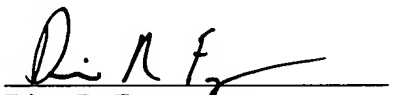
Claim 3 depends on claim 1. As noted above, JP '802 and Uehara fail to teach or suggest all of the elements of claim 1. Because Taniguchi fails to cure the deficiencies of JP '802 and Uehara, claim 3 is patentable at least by virtue of its dependency.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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